

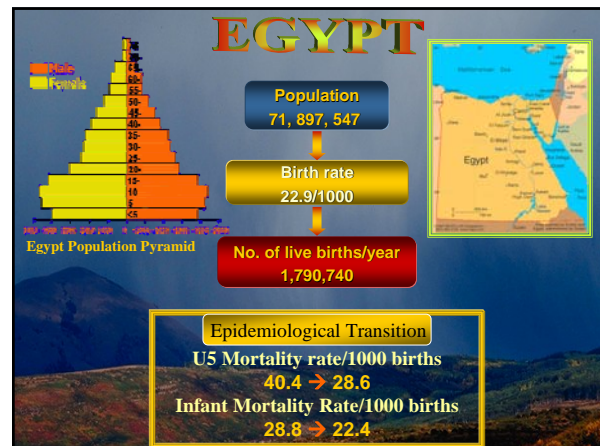
# Newborn Screening Programs and Activities in Egypt

Children with Special Needs Department  
Ministry of Health and Population  
[MOH&P]

Prepared & Presented by

**Dr. Randa Kamal**

Ass. Prof. of Pediatrics - Ain Shams University  
Consultant MOH&P



## National Newborn Screening Program for Congenital Hypothyroidism

Start → April 2000

Total Coverage → December 2003

### Methods and Techniques

#### Screening

- ELISA for TSH measurement from a Prick heel capillary sample

#### Confirmation

- Chemiluminescence for serum TSH and FT4 measurement

### Multidisciplinary Approach for Services Delivery

- MOH&P: 3200 PHC facilities, Screening, Outreach Program
- CHL: 14 central & regional labs, Technical processing of specimens
- HIO: 25 centers, Treatment and follow-up of cases

### Challenges

- Quality assurance • Coverage • Information Network • Sustainability

## Congenital Hypothyroidism Screening Program Important Numbers, Rates and Cost

No. of babies screened since screening began	No. of babies recalled for confirmatory testing	No. of babies who actually received confirmatory testing	No. of Confirmed Cases
4,778,549	8123	6311	3498

Recall Rate	Drop-out Rate	False Positive Rate
0.17%	Confirmation: 12.6%, Treatment: 6.5%	34.6%

Overall cost/year	Cost/screened baby	Cost of specimen processing	Cost of medical treatment/case/year	Cost of follow-up/case/year
2.5 million \$	1.4 \$	0.4 \$	3 \$	40.5 \$

## Difficulties and Limitations

1. Financial
2. System:
  - ❖ Multiplicity of vertical programs at PHC level
  - ❖ Screening in the NCU
  - ❖ Private sector
3. HIS:
  - ❖ Registration system
  - ❖ Network
4. Culture:
  - ❖ Community awareness
  - ❖ Cultural beliefs
5. Geographical:
  - ❖ Remote and slum areas
6. Dissemination:
  - ❖ Program promotion

### Most effective single intervention:

- Expanding the system of health reform to provide complete services coverage for all neonates.

## Other conditions that we intend to screen:

### 1. PKU:

- ❖ Expected: >200 affected newborns / year
- ❖ Study: Magnitude of the problem
- ❖ Study: Cost effectiveness
- ❖ Challenge: Providing special milk formula and diet

### 2. Birth Defects:

- ❖ Pilot study on screening for birth defects among Newborns in East Alexandria
  - Neonates: 19,530
  - Service providers: PHC nurses, physicians, consultants
  - Follow-up: Genetic counseling clinics
  - Limitations:
    - Cost of intervention
    - Lack of reliable registration
    - Service providers
- ❖ Screening for genital anomalies among newborns in 3 governorates.

**3. Screening for hearing loss in the neonates:**

- ❖ **Technique:** Evoked otoacoustic emissions
- ❖ **Diagnosis:** Complete audiological evaluation
- ❖ **Limitation:** High drop-out rate for referrals

**4. Screening for all types of disabilities:**

- ❖ **Target group:** Newborns & children below 6 years
- ❖ **Aim:** Validate an Egyptian tool for early identification of disabilities

**5. Screening for  $\beta$ -Thalassemia carriers among secondary school students.**

**6. Screening for autistic disorders in children aged 18 – 24 months.**

